

Appl. Ser. No. 10/749,636
Amendment Dated May 1, 2006
Reply to Office Action of December 1, 2005

Amendments to the Drawings

Pursuant to the Examiner's objection to the drawings, a replacement sheet of drawing is enclosed herewith showing the addition of reference numeral 66 in Figure 3. No new matter has been introduced into the drawings.

Attachment: Replacement Sheet 3/3

REMARKS/ARGUMENTS

Responsive to the Office Action, Applicant submits herewith a replacement sheet of drawing (3/3) comprising Figure 3 wherein the reference numeral (66) has been added to indicate the chain run opposite the chain run (68). No new matter has been introduced into drawing Figure 3.

Pursuant to the Examiner's objections to Claims 1-20 and the rejections under 35 U.S.C. 112, 35 U.S.C. 102 and 35 U.S.C. 103(a), Claims 1 through 20 have been canceled and new Claims 21 through 28 are submitted herewith. Claims 21 through 28 are believed to conform to the requirements of 35 U.S.C. 112 and to patentably distinguish over the prior art in this application.

New independent Claims 21, 27 and 28 are believed to distinguish clearly over the prior art of record in that these claims recite the requirement of a single coil spring connected to the opposed runs of a flexible chain trained around a sprocket operably connected to an output shaft of the door operator for rotating the output shaft in opposite directions in response to returning energy stored in the spring. In at least these respects Claims 21, 27 and 28 distinguish over the teaching and disclosure of U.S. Patent 4,599,824 to Mitsuhashi et al. The Mitsuhashi et al. reference requires two coil springs each connected to a run of a flexible chain which is trained over a sprocket connected to an output shaft of a door operator to provide for a manual force smaller than the force with which the door is opened by the motor in the event of requirement of manual operation of the door. However, Mitsuhashi et al. does not disclose or suggest the provision of a single coil spring connected to a shaft which is connected to a link which in turn is connected to opposite ends of a flexible chain whereby a single spring may be used to return the door to

a selected position by returning energy stored in the spring as a result of moving in one direction or the other. Such a combination is not disclosed in or suggested by Mitsuhashi et al.

Claims 21, 27 and 28 are similar in some respects to canceled Claims 12 through 14 which were rejected under 35 U.S.C. 103(a) over Mitsuhashi et al. in view of U.S. Patent 6,336,294 to Kowalczyk et al. As pointed out hereinabove, Mitsuhashi et al. does not disclose or suggest the provision of a single coil spring connected to opposite ends of a flexible chain through a link whereby the spring energy may be imposed on the chain to rotate the output shaft in either direction to return the door to a closed position. The Kowalczyk et al. patent discloses a door operator having a single coil spring which acts through a cam mechanism to engage a cam follower on a disc connected to the operator output shaft. The spring is operable to bias the shaft to move a door toward a closed position while the operator motor is operable to rotate the output shaft to a door open position through a planetary gear reduction drive mechanism. However, Kowalczyk et al. does not disclose or suggest the provision of a coil spring connected to a shaft which in turn is connected to a link which in turn is connected to opposite runs of a chain trained around a sprocket connected to an output shaft as required by Claims 21, 27 and 28. There is clearly no suggestion in Kowalczyk et al. or Mitsuhashi et al. to make the combinations set forth in Claims 21, 27 and 28 as well as Claims 22 through 26 dependent on Claim 21. Accordingly, consideration for allowance of Claims 21 through 28 is respectfully requested.

Applicant has made a diligent effort to further advance the prosecution of this application by canceling claims, presenting new claims which are believed to conform to the requirements of 35 U.S.C. 112, to distinguish patentably over the prior art and by pointing out with particularity herein how

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the claims distinguish in a patentable sense. An early Notice
of Allowance of Claims 21 through 28 is respectfully solicited.

Respectfully submitted,

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